KMCSF
053/0536
9/01/07

UNITED STATES ENVIROMENTAL PROTECTION AGENCY
Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Addendum to Second Five Year Review Report,
Kerr McGee Chemical Corporation (Soda Springs) Superfund Site
dated September 2007

The Second Five-Year Review report (FYR) for the **Kerr McGee Chemical Corporation (Soda Springs) Superfund Site** in Soda Springs, Idaho, was signed by Lori Cohen, Associate Director of the Region 10 Office of Environmental Cleanup on September 28, 2007. The protectiveness statement contained in the FYR is as follows:

> *A protectiveness determination of the remedy cannot be made until further information is obtained. Further information will be obtained by taking the following actions:*
>
> - *Evaluate practicability of remedy in achieving cleanup goals;*
> - *Evaluate adequacy of current groundwater monitoring network for identifying the offsite migration of COCs (contaminants of concern);*
> - *Assess whether current groundwater and surface water performance standards are still applicable; and*
> - *Work with the laboratory providing analytical services to reduce the groundwater detection and reporting limits to less than the MCL (maximum contaminant level) for arsenic.*
>
> *It is expected that these actions will take approximately fifteen months to complete, at which time a determination of protectiveness will be made.*

In deferring the protectiveness determination in the FYR, a timeframe was provided for when the information would be obtained and a protectiveness statement would be made. This document reports progress since the FYR and presents a protectiveness determination for the remedy where the statement was deferred in the FYR.

Reason for Deferring the Protectiveness Determination

A protectiveness determination was not made at the time of the 2007 FYR. The reason that the determination was deferred is described below.

> *While the various components of the remedy have been constructed as designed, groundwater monitoring data reveal, after initially decreasing, trends for a number of COCs have been relatively flat since the late 1990s and remain above risk-based cleanup goals identified in the ROD. In some cases, trends for certain COCs at specific monitoring wells have been increasing over the last several years. Because groundwater cleanup goals have not been achieved within the 10 year period predicted in the ROD, and the trends for some COCs are flat or upwards at some wells, additional assessment of the practicability of the remedy in meeting the cleanup goals is recommended.*

Progress Since the Five-Year Review Completion Date

Progress on each of the follow-up action items identified in the 2007 FYR is presented below.

Evaluate practicability of remedy in achieving cleanup goals
Tronox submitted a draft Remedy Evaluation Report in March 2009. EPA has provided comments on the draft report and is working with Tronox to finalize the report. While the report is not yet finalized, the major findings of the evaluation include:

Source Characterization
Review of remedy construction records, site characterization work conducted as part of the Remedial Investigation, and groundwater monitoring data suggest that there is/are one or more source area(s) on the site not adequately addressed by the existing remedy. Additional work will be undertaken by Tronox to identify and characterize potential sources of site COCs and, as appropriate, design and implement any additional remedial actions that would need to be taken to address them.

Institutional Controls
The draft Remedy Evaluation report indicates that no proprietary controls have been established and recorded with the county for the industrial facility. The report states that such an activity has not been undertaken because it is not anticipated that the property would be out of control of Kerr-McGee (now Tronox) and its successors and that it would remain an industrial facility. This appears to conflict with the Consent Decree (CD) for the site, which calls for the establishment of "a right, running with the land for the full duration of the applicable easement period, to enforce the land use restrictions required by this Consent Decree." Consequently, an easement should be developed and recorded with the county that satisfies the requirements of the CD. Tronox will develop and record an easement with the county that satisfies the requirements of the CD.

Deed restrictions were placed on the property to the south of the facility in 1995 because COCs were identified in groundwater in this area. Kerr-McGee subsequently purchased this property in 2004 and access is currently restricted by a fence.

The 2002 and 2007 FYRs have incorrectly stated that the City of Soda Springs restricts or prohibits the development of groundwater wells for domestic and commercial use. While recent development within the City has been utilizing the municipal water source, conversations with the City reveal that they do not currently have an ordinance, permitting requirement, or other written, enforceable mechanism to restrict or prohibit well development within the city limits. Consequently, this IC (intended to protect against ingestion downgradient of the site) does not exist. Further assessment of IC needs downgradient of the site will be undertaken.

The groundwater monitoring network is being evaluated to determine if it is adequately tracking COC migration from the site in the groundwater. This evaluation is intended to help determine whether modifications to the network are needed to better understand how and where the plume is moving. Changes to the network (if needed) may reveal areas where MCLs and risk-based concentrations (RBCs) are not being met; areas where additional ICs may need to be identified and implemented.

Operations and Maintenance
A complete operations and maintenance plan (O&M) has been prepared for the site which describes the care and inspection of the various contained waste landfills. Since the capped landfills were all constructed to be durable, the O&M is mainly maintenance of the various caps. Inspections of capped areas on the site conducted as part of the remedy evaluation in 2009 have revealed evidence of standing

water, erosion and burrowing animals. Tronox will be addressing these issues to meet their O&M obligations.

Evaluate adequacy of current groundwater monitoring network for identifying the offsite migration of COCs

The groundwater monitoring network is being evaluated as part of the remedy evaluation. While that assessment is not yet finalized, the major findings of the evaluation indicate the need to augment the existing monitoring network with additional wells. EPA is working with Tronox to define the number and location of addition wells to be added to the monitoring network. Levels of vanadium and molybdenum in groundwater exceed risk-based concentrations at locations outside of properties owned and maintained by Tronox.

Assess whether current groundwater and surface water performance standards are still applicable

EPA has completed evaluating the groundwater and surface water performance standards that were established in the ROD to determine whether they continue to be protective. The review was conducted to determine whether the RBCs for the site would be different from those currently defined in the ROD using more up-to-date information than that used at the time the ROD was issued. The results from the assessment reveal that some RBCs would increase, some would decrease, and some would remain the same if established with updated information. Overall, changes to the RBCs using updated information would have minimal impact on the long-term cleanup goals for the site and, therefore, no changes are proposed at this time. These updated values will be considered should additional remedial actions be necessary at the site. If additional remedial actions are needed at the site, the RBCs (and whether changes are warranted) will be considered as part of developing the decision document needed to support a revision to the existing remedy.

Work with the laboratory providing analytical services to reduce the groundwater detection and reporting limits to less than the MCL (maximum contaminant level) for arsenic.

In a letter dated March 30, 2008, Tronox indicated that laboratory analyses of water samples will henceforth be analyzed using a detection limit that is less than 10 micrograms per liter (the revised MCL). This issue has been resolved.

Issues and Recommendations

The issues and recommendations/follow-up actions based on the findings in this Addendum are presented in Table 1.

Protectiveness Statement

The remedy for the site currently protects human health and the environment because

- no domestic use of groundwater or surface water is known to occur downgradient of the site; and
- access is currently restricted on Tronox-owned property.

However, in order for the remedy to be protective in the long-term, the following actions need to be taken to ensure long-term protectiveness:

- determine if previously unidentified source areas exist on the site. If so, ensure that they are adequately characterized and appropriate remedies are designed and constructed;
- enhance the existing groundwater monitoring network to better characterize the downgradient migration of site-related COCs;
- ensure that all necessary Institutional Controls are identified and implemented; and
- ensure that all necessary O&M practices are identified and implemented.

Next Five-Year Review

The next five-year review will be completed on September 28, 2012, five years after the signature of the last five-year review report.

_____ Date_____

Lori Cohen, Acting Director
Office of Environmental Cleanup
US EPA Region 10

Table 1 Issues and Recommendations/Follow-Up Actions

Issue	Recommendations/ Follow-Up Actions	Party Responsible	Oversight Agency	Milestone Date	Follow-Up Action Affects Protectiveness (Yes/No)	
					Current	Future
Concentrations of COCs in groundwater and surface waters remain above RBCs and are exhibiting either flat or upward trends	Determine if previously unidentified source areas exist on the site. If so, ensure that they are adequately characterized and appropriate remedies are designed and constructed.	Tronox, Inc.	State/EPA	12/31/11	No	Yes
Groundwater monitoring network does not adequately characterize downgradient migration of site-related COCs	Enhance the existing groundwater monitoring network to better characterize the downgradient migration of site-related COCs.	Tronox, Inc.	State/EPA	9/30/10	No	Yes
Necessary ICs are not in place or areas where potential ICs may be needed have not been identified	Ensure that all necessary ICs are identified and implemented.	Tronox, Inc.	State/EPA	12/31/11	No	Yes
Issues related to O&M practices have been identified	Ensure that all necessary O&M practices are identified and implemented.	Tronox, Inc.	State/EPA	12/31/09 for existing remedy. 12/31/11 if additional remedial actions are taken.	No	Yes